

REMARKS/DISCUSSION OF ISSUES

By this Amendment, Applicants amend claims 1-4, 8-9 and 11-13 and add claims 15-20. Accordingly, claims 1-20 are pending in the application.

The Examiner is respectfully requested to acknowledge the claim for priority and receipt of certified copies of all the priority documents.

The Examiner is also respectfully requested to state whether the drawings are acceptable.

Claims are amended to correct typographical errors, to replace European-style claim phraseology with American-style claim language, and for clarification. The claims are not narrowed in scope and no new matter is added.

New claims 15-20 are added to at least partially restore the original range of claims that existed before multiple dependencies were removed in the preliminary amendment. No new matter is added.

Reexamination and reconsideration are respectfully requested in view of the following Remarks.

CLAIM OBJECTIONS

The Office Action objects to claim 9 for a minor typographical error.

By this Amendment, Applicants correct that error.

Accordingly, withdrawal of the objection to claim 9 is respectfully requested.

35 U.S.C. § 112

The Office Action rejects claim 3 under 35 U.S.C. § 112, second paragraph.

Applicants respectfully submit that the amended claim 3, which is amended for clarification, is fully compliant with 35 U.S.C. § 112.

Accordingly, withdrawal of the rejection of claim 3 under 35 U.S.C. § 112, second paragraph, is respectfully requested.

35 U.S.C. § 103

The Office Action rejects claims 1-14 under 35 U.S.C. § 103 over Olsen et al.

U.S. patent 5,581,480 ("Olsen") in view of Swanson U.S. patent 6,255,975 ("Swanson").

Applicants respectfully submit that all of the claims 1-14 are patentable over the cited art for at least the following reasons.

Claim 1

Among other things, the mixing system of claim 1 includes a clipping unit and a converter unit arranged to receive a clipped sum signal from the clipping unit and to convert said clipped sum signal into an output signal of said bit resolution, using noise-shaping, the clipping unit being arranged to limit the input values to a range of values that the converter is able to handle in a stable manner.

Applicants respectfully submit that the Office Action has not established any combination of references that would produce a mixing system including such a combination of features.

The Office Action states that "*Olsen as modified*" discloses such a converter unit, citing broadly text and figures from both Olsen and Swanson.

Applicants respectfully disagree.

Olsen clearly does not disclose a converter unit that uses noise shaping.

The Office Action does not provide any motivation for one of skill in the art at the time the invention was made to have modified Olsen's converter unit to use noise shaping. Meanwhile, M.P.E.P. § 2143.01 requires such a motivation if the Examiner proposes to modify a reference to obtain Applicants' claimed invention. Absent such a motivation, Olsen cannot be modified to include such a converter unit that uses noise shaping, and any attempt to do so is improper.

Indeed, the only mention of any motivation to modify Olsen provided in the Office Action is to modify Olsen such that it receives at least one noise-shaped oversampled digital audio signal. However, Applicants respectfully traverse that proposed motivation. To sustain a § 103(a) rejection based on a combination of references, motivation found explicitly or implicitly in the references themselves or in knowledge generally available to one of ordinary skill in the art. MPEP § 2143.01(I). Here, no evidence has been provided in support of the proposed motivation for

modifying Olsen. If the Examiner takes "official notice" that motivation for such combination was available in knowledge generally available at the time of the invention, that position must be based on facts capable of instant and unquestionable demonstration as being "well-known" in the art, and the Examiner must be prepared to cite a reference in support of that position, or file an affidavit under 37 CFR 1.104(d)(2) if the rejection is based on facts within his or her personal knowledge. MPEP § 2144.03.

Furthermore, Swanson also does not disclose the recited converter including noise shaping, and indeed the Office Action fails to cite any of the numerous reference numerals from any of the many figures in Swanson as even supposedly corresponding to the recited converter. Applicants specifically traverse the indication that such a converter is shown in FIG. 1C of Swanson, which instead shows a digital-to-analog converter which – of course – outputs an analog signal, in direct contrast to the converter of claim 1 which outputs a digital signal "of such bit resolution" as the received digital audio signal.

Since neither Olsen nor Swanson discloses the recited converter including noise shaping, no combination of Olsen and Swanson could ever produce the recited mixer including the recited converter.

Furthermore, Applicants respectfully traverse the Examiner's statement of Official Notice regarding the feature of claim 1 wherein a filter unit is provided between the input terminals and the clipping unit, arranged to selectively suppress frequency components outside an audio frequency band from the sum signal. The Examiner is respectfully requested to provide evidentiary support that it was well known to include in the mixer of Olsen the filter unit as precisely recited in claim 1, or provide an affidavit under 37 CFR 1.104(d)(2) if the rejection is based on facts within his or her personal knowledge. MPEP § 2144.03.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 1 is patentable over the cited art.

Claims 2-10

Claims 2-10 depend from claim 1 and are all patentable over the cited art for

at least the reasons set forth above with respect to claim 1, and for the following additional reasons.

Claim 4

Applicants respectfully submit that neither Olsen nor Swanson (nor any proper combination thereof) discloses a mixer where the output signal has a DSD-format.

Claims 6 & 7

Applicants respectfully submit that neither Olsen nor Swanson (nor any proper combination thereof) discloses a clipping unit that outputs a clipped signal that is maximized to a clip level compliant with a Sigma-Delta Modulator, or in particular (claim 7) to a level that is -3dB as compared to the amplitude output of the Sigma-Delta Modulator.

Claim 8

Applicants respectfully submit that neither Olsen nor Swanson (nor any proper combination thereof) discloses one or more down-sampling units for down-sampling said digital audio signals before the digital audio signals are applied to the summing unit. Indeed, the office Action fails to cite even a single reference numeral from a single drawing in any reference as supposedly showing such down-sampling unit(s).

Claim 11

Among other things, the method of claim 11 includes clipping a sum signal, and converting the clipped sum signal into an output signal of the same bit resolution as the input signal, using noise-shaping, the clipping unit being arranged to limit values of the sum signal to a range of values that the converter is able to handle in a stable manner.

For similar reasons to those set forth above with respect to claim 1, Applicants respectfully submit that: (1) the Office Action has not established any combination of references that would produce a method including such a combination of features; (2) the Office Action does not provide any motivation for one of skill in the art at the time the invention was made to have for modified Olsen's to convert a clipped sum

signal into an output signal of said bit resolution using noise shaping¹; and (3) neither Olsen nor Swanson discloses the recited conversion using noise shaping, and so no combination of Olsen and Swanson could ever produce the recited method including the recited conversion including noise shaping.

Furthermore, Applicants respectfully traverse the Examiner's statement of Official Notice regarding the features of claim 11 including selectively suppressing frequency components outside an audio frequency band in at least one of the digital audio signals and the sum signal. The Examiner is respectfully requested to provide evidentiary support that it was well known to include such features in the mixing operation of Olsen, or provide an affidavit under 37 CFR 1.104(d)(2) if the rejection is based on facts within his or her personal knowledge. MPEP § 2144.03.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 11 is patentable over the cited art.

Claims 12-14

Claims 12-14 depend from claim 11 and are deemed patentable for at least the reasons set forth above with respect to claim 11.

CLAIMS 15-20

Claims 15-20 all depend from claim 1 and are all deemed patentable over the cited art for at least the reasons set forth above with respect to claim 1.

CONCLUSION

In view of the foregoing explanations, Applicants respectfully request that the Examiner reconsider and reexamine the present application, allow claims 1-20 and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D.

¹ As before, if the Examiner takes "official notice" that motivation for such combination was available in knowledge generally available at the time of the invention, that position must be based on facts capable of instant and unquestionable demonstration as being "well-known" in the art, and the Examiner must be prepared to cite a reference in support of that position, or file an affidavit under 37 CFR 1.104(d)(2) if the rejection is based on facts within his or her personal knowledge. MPEP § 2144.03).

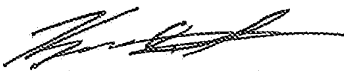
Springer (Reg. No. 39,843) at (571) 283.0720 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this reply to charge payment or credit any overpayment (except for the issue fee) to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17, particularly extension of time fees.

Respectfully submitted,

VOLENTINE & WHITT

Date: 11 April 2007

By: 
Kenneth D. Springer
Registration No. 39,843

VOLENTINE & WHITT
One Freedom Square
11951 Freedom Drive, Suite 1260
Reston, Virginia 20190
Telephone No.: (571) 283.0724
Facsimile No.: (571) 283.0740